configured for regulating the cells from a plurality of input paths to the output path to a network, comprising:

sorting a plurality of queues, each queue including a plurality of cells associated with a communication device, wherein the plurality of queues are arranged according to a weight and a data rate associated with each of the plurality of cells resulting in a plurality of sorted queues of queues;

regulating an aggregate output of cells from each sorted queue of queues based upon the data rates of the plurality of queues of the each sorted queue of queues; and

scheduling the regulated output of the aggregate output of cells from each sorted queue of queues based upon [weights] a weight of the each sorted queue of queues, such that the scheduled output is coupled to the output path;

wherein the scheduled output conforms to a plurality of characteristics of [the] network connections, such that the network is efficiently used to carry the cells from the plurality of input paths to a plurality of communication devices.

2. A method as claimed in claim 1, wherein said plurality of input paths represent virtual connections.

3. A method as claimed in claim 1, wherein said plurality of input paths represent input ports.

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20. (Amended) A computer-implemented method for scheduling the output of cells on an output path of a data switch, the data switch being configured for switching the cells from a plurality of input paths to the output path, comprising:

providing a plurality of queues, each queue of said plurality of queues having a weight and an associated data rate, respective ones of said plurality of input paths being coupled to respective ones of said plurality of queues;

providing a plurality of queues of queues, the plurality of queues being coupled to the plurality of queues of queues, such that the queues of the plurality of queues having a [similar] substantially equal weight being coupled to a same queue of queues of the plurality of queue of queues;

providing a plurality of traffic shapers, each of the plurality of queues of queues being input to an associated traffic shaper;

providing a scheduler, the plurality of traffic shapers being input to the scheduler, the scheduler being coupled to said output path.

Please add the following new claims.

22. (New) A computer-implemented method for shaping the output of cells on an output path of a data transmitting device, the data transmitting device being configured for regulating the cells from a plurality of input paths to the output path to a network, comprising:

sorting a plurality of queues, each queue including a plurality of cells associated with a communication device, wherein the plurality of queues are arranged according to a weight and a data rate associated with each of the plurality of cells resulting in a plurality of sorted queues of queues;

regulating an aggregate output of cells from each sorted queue of queues based upon the data rates of the plurality of queues of the each sorted queue of queues; and

scheduling the regulated aggregate output of cells from each sorted queue of queues based upon a weight of the each sorted queue of queues, such that the scheduled output is coupled to the output path;

wherein the scheduled output conforms to a plurality of characteristics of network connections, such that the network is efficiently used to carry the cells from the plurality of input paths to a plurality of communication devices.

23. (New) A method as claimed in claim 22, wherein said plurality of input paths represent virtual connections.

24. (New) A method as claimed in claim 22, wherein said plurality of input paths represent input ports.

25. (New) A method as claimed in claim 22, wherein the data transmitting device is capable of outputting data encapsulated in at least one of cells and data packets.

26. (New) A method as claimed in claim 22, wherein the data transmitting device is an ATM switch.

27. (New) A computer-implemented method for shaping the output of cells on an output path of a data transmitting device, the data transmitting device being configured for regulating the cells from a plurality of input paths to the output path to a network, comprising:

sorting a plurality of queues, each queue including a plurality of cells associated with a communication device, wherein the plurality of queues are arranged according to a

weight and a data rate associated with each of the plurality of cells resulting in a plurality of sorted queues of queues;

regulating an aggregate output of cells from all sorted queue of queues based upon the data rates of the plurality of queues of the each sorted queue of queues; and

scheduling the regulated aggregate output of cells from each sorted queue of queues based upon a weight of the each sorted queue of queues, such that the scheduled output is coupled to the output path;

wherein the scheduled output conforms to a plurality of characteristics of network connections, such that the network is efficiently used to carry the cells from the plurality of input paths to a plurality of communication devices, the plurality of input paths representing virtual connections.

28. (New) A computer-implemented method for shaping the output of cells on an output path of a data transmitting device as recited in claim 27, wherein the data transmitting device is capable of outputting data encapsulated in at least one of cells and data packets.

29 (New) A computer-implemented method for shaping the output of cells on an output path of a data transmitting device as recited in claim 27, wherein the data transmitting device is an ATM switch.

30. (New) A computer-implemented method for shaping the output of cells on an output path of a data transmitting device, the data transmitting device being configured for regulating the cells from a plurality of input paths to the output path to a network, comprising:

sorting a plurality of queues, each queue including a plurality of cells associated with a communication device, wherein the plurality of queues are arranged according to a weight and a data rate associated with each of the plurality of cells resulting in a plurality of sorted queues of queues;

regulating an aggregate output of cells from all sorted queue of queues based upon the data rates of the plurality of queues of the each sorted queue of queues; and

scheduling the regulated aggregate output of cells from each sorted queue of queues based upon a weight of the each sorted queue of queues, such that the scheduled output is coupled to the output path;

wherein the scheduled output conforms to a plurality of characteristics of network connections, such that the network is efficiently used to carry the cells from the plurality of input paths to a plurality of communication devices, the plurality of input paths representing virtual connections, and the data transmitting device is an ATM switch.

31. (New) A computer-implemented method for scheduling the output of cells on an output path of a data switch, the data switch being configured for switching the cells from a plurality of input paths to the output path, comprising:

providing a plurality of queues, each queue of said plurality of queues having a weight and an associated data rate, respective ones of said plurality of input paths being coupled to respective ones of said plurality of queues;

providing a plurality of queues of queues, the plurality of queues being coupled to the plurality of queues of queues, such that the queues of the plurality of queues having a substantially equal weight being coupled to a same queue of queues of the plurality of queue of queues;